

APPENDIX

CLAIM AMENDMENTS

A ready-to-use composition for dyeing keratin fibers,

comprising:

- (i) at least one cationic direct dye chosen from compounds of formulae (I), (II), (III) and (III') below, and
 - (ii) at least one thickening polymer;
- (a) wherein said compounds of formula (I) are chosen from compounds of formula:

$$A - D = D - \begin{pmatrix} R'_3 \\ R_3 \end{pmatrix} - N \begin{pmatrix} R_3 \\ R_2 \end{pmatrix}$$
 (I)

in which:

D is chosen from a nitrogen atom and a -CH group,

 R_1 and R_2 , which may be identical or different, are chosen from a hydrogen atom; a 4'-aminophenyl radical; and C_1 - C_4 alkyl radicals which can optionally be substituted with a radical chosen from -CN, -OH and -NH $_2$ radicals; or

 R_1 and R_2 may form, with each other or with a carbon atom of the benzene ring of formula (I), a heterocycle optionally containing a heteroatom chosen from oxygen and nitrogen, which can be substituted with at least one radical chosen from C_1 - C_4 alkyl radicals;

R₃ and R'₃, which may be identical or different, are chosen from a hydrogen atom, halogen atoms, a cyano radical, C₁-C₄ alkyl radicals, C₁-C₄ alkoxy radicals and acetyloxy radicals,

X is chosen from anions,

A is chosen from structures A_1 to A_{19} below:

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and

in which:

 R_4 is chosen from $C_1\text{-}C_4$ alkyl radicals which can be substituted with a hydroxyl radical, and

 R_{5} is chosen from $C_{1}\hbox{-} C_{4}$ alkoxy radicals, and

wherein when D represents -CH, when A represents A_4 or A_{13} and when R_3 is not an alkoxy radical, R_1 and R_2 are not both a hydrogen atom;

(b) wherein said compounds of formula (II) are chosen from compounds of formula:

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$$B-N=N- \begin{array}{c} R_{8} \\ \hline \\ X \end{array} \begin{array}{c} R_{7} \\ \hline \\ R_{7} \end{array}$$
 (II)

in which:

R₆ is chosen from a hydrogen atom and C₁-C₄ alkyl radicals,

 R_7 is chosen from a hydrogen atom, alkyl radicals which can be substituted with a species chosen from a -CN radical and an amino group, and a 4'-aminophenyl radical, or forms, with R_6 , a heterocycle optionally comprising at least one heteroatom chosen from oxygen and nitrogen, which can be substituted with C_1 - C_4 alkyl radicals,

 R_8 and R_9 , which may be identical or different, are chosen from a hydrogen atom, halogen atoms, C_1 - C_4 alkyl radicals, C_1 - C_4 alkoxy radicals and a -CN radical,

X is chosen from anions,

B is chosen from structures B₁ to B₆ below:

$$R_{10}$$
 R_{10}
 R

in which:

R₁₀ is chosen from C₁-C₄ alkyl radicals, and

 R_{11} and R_{12} , which may be identical or different, are chosen from a hydrogen atom and $C_1\text{-}C_4$ alkyl radicals;

(c) wherein said compounds of formulae (III) and (III') are chosen from compounds of formulae:

$$E-D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X \cdot R_{15} - R_{15} - R_{15} - R_{15} - R_{15} - R_{16} - R_{16$$

in which:

 R_{13} is chosen from a hydrogen atom, C_1 - C_4 alkoxy radicals, halogen atoms and an amino radical,

 R_{14} is chosen from a hydrogen atom, C_1 - C_4 alkyl radicals or forms, with a carbon atom of the benzene ring, a heterocycle optionally containing an oxygen heteroatom and/or substituted with at least one radical chosen from C_1 - C_4 alkyl radicals,

R₁₅ is chosen from a hydrogen atom and halogen atoms,

 R_{16} and R_{17} , which may be identical or different, are chosen from a hydrogen atom and C_1 - C_4 alkyl radicals,

 D_1 and D_2 , which may be identical or different, are chosen from a nitrogen atom and a -CH group,

m is 0 or 1,

wherein when R_{13} is an unsubstituted amino group, D_1 and D_2 are both a -CH group and m is 0,

X⁻ is chosen from anions,

E is chosen from structures E₁ to E₈ below:

E1

and

in which R' is chosen from $C_1\text{-}C_4$ alkyl radicals;

wherein when m is 0 and when D_1 represents a nitrogen atom, E can be further chosen from structure E9 below:

in which R' is chosen from $C_1\text{-}C_4$ alkyl radicals;

and

(d) wherein said at least one thickening polymer is chosen from polymers comprising at least one sugar unit.

with the provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
 - both D's are simultaneously nitrogen atoms,
 - R₃ and R'₃ are simultaneously hydrogen atoms,
 - R₁ and R₂ are simultaneously unsubstituted methyl radicals, and
 - A is A₆ wherein R₄ is an unsubstituted methyl radical, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
 - D₁ and D₂ are simultaneously nitrogen atoms,
 - m is zero,
 - R₁₅ is a hydrogen atom,
 - R₁₃ is a dimethylamino radical, and

- E is E₈ wherein R' is an unsubstituted methyl group,

then the at least one thickening polymer is not chosen from at least one nonionic guar gum; and

with the further provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
 - both D's are simultaneously nitrogen atoms, and
 - A is chosen from A4 and A13, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
 - D₁ and D₂ are simultaneously nitrogen atoms,
 - m is zero, and
 - E is chosen from E₁, E₂, and E₇,

then said at least one thickening polymer is not chosen from hydroxyalkylcelluloses and carboxyalkylcelluloses.

42. (Twice Amended) The composition according to claim 1, wherein said at least one cationic direct dye and said at least one thickening polymer are present in said composition in an amount sufficient for lightening [direct] dyeing with said at least one direct dye.

45. (Twice Amended) A process for dyeing keratin fibers, comprising applying at least one dye composition to said keratin fibers and developing for a period of time sufficient to achieve a desired coloration, wherein said at least one dye composition comprises:

- (i) at least one cationic direct dye chosen from compounds of formulae (I), (II), (III) and (III') below, and
 - (ii) at least one thickening polymer;
- (a) wherein said compounds of formula (I) are chosen from compounds of formula:

$$A - D = D - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix} - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$

in which:

D is chosen from a nitrogen atom and a -CH group,

R₁ and R₂, which may be identical or different, are chosen from a hydrogen atom; a 4'-aminophenyl radical; and C₁-C₄ alkyl radicals which can optionally be substituted with a radical chosen from -CN, -OH and -NH₂ radicals; or

 R_1 and R_2 form, with each other or with a carbon atom of the benzene ring of formula (I), a heterocycle optionally containing a heteroatom chosen from oxygen and nitrogen, which can be substituted with at least one radical chosen from C_1 - C_4 alkyl radicals;

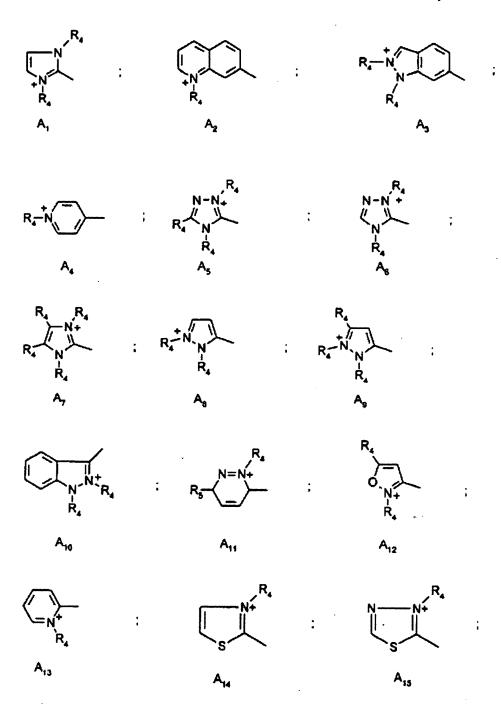
R₃ and R'₃, which may be identical or different, are chosen from a hydrogen atom,

halogen atoms, a cyano radical, C_1 - C_4 alkyl radicals, C_1 - C_4 alkoxy radicals and acetyloxy radicals,

X is chosen from anions,

A is chosen from structures A_1 to A_{19} below:

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and

in which:

 R_4 is chosen from $C_1\text{-}C_4$ alkyl radicals which can be substituted with a hydroxyl radical, and

 R_5 is chosen from $C_1\text{-}C_4$ alkoxy radicals, and

wherein when D represents -CH, when A represents A_4 or A_{13} and when R_3 is not an alkoxy radical, R_1 and R_2 are not both a hydrogen atom;

(b) wherein said compounds of formula (II) are chosen from compounds of formula:

$$B-N=N- \begin{array}{c} R_8 \\ \hline \\ X \end{array} \begin{array}{c} R_7 \\ \hline \\ R_7 \end{array}$$
 (II)

in which:

R₆ is chosen from a hydrogen atom and C₁-C₄ alkyl radicals,

 R_7 is chosen from a hydrogen atom, alkyl radicals which can be substituted with a species chosen from a -CN radical and an amino group, and a 4'-aminophenyl radical, or forms, with R_6 , a heterocycle optionally comprising at least one heteroatom chosen from oxygen and nitrogen, which can be substituted with C_1 - C_4 alkyl radicals,

 R_8 and R_9 , which may be identical or different, are chosen from a hydrogen atom, halogen atoms, C_1 - C_4 alkyl radicals, C_1 - C_4 alkoxy radicals and a -CN radical,

X is chosen from anions,

B is chosen from structures B₁ to B₆ below:

$$R_{10}$$
 R_{10}
 R

in which:

R₁₀ is chosen from C₁-C₄ alkyl radicals, and

 R_{11} and R_{12} , which may be identical or different, are chosen from a hydrogen atom and C_1 - C_4 alkyl radicals;

(c) wherein said compounds of formulae (III) and (III') are chosen from compounds of formulae:

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$$E-D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X = R_{15} - R_{13}$$

$$X = R_{17} - R_{16}$$

$$(III)$$

$$(III)$$

in which:

 R_{13} is chosen from a hydrogen atom, $C_1\text{-}C_4$ alkoxy radicals, halogen atoms and an amino radical,

 R_{14} is chosen from a hydrogen atom, C_1 - C_4 alkyl radicals or forms, with a carbon atom of the benzene ring, a heterocycle optionally containing an oxygen heteroatom and/or substituted with at least one to radical chosen from C_1 - C_4 alkyl radicals,

R₁₅ is chosen from a hydrogen atom and halogen atoms,

 R_{16} and R_{17} , which may be identical or different, are chosen from a hydrogen atom and C_1 - C_4 alkyl radicals,

 D_1 and D_2 , which may be identical or different, are chosen from a nitrogen atom and a -CH group,

m is 0 or 1,

wherein when R_{13} is an unsubstituted amino group, D_1 and D_2 are both a -CH group and m is 0,

X is chosen from anions,

E is chosen from structures E_1 to E_8 below:

and

in which R' is chosen from $C_1\text{-}C_4$ alkyl radicals;

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wherein when m is 0 and when D₁ represents a nitrogen atom, E can be further chosen from structure E9 below:

in which R' is chosen from C₁-C₄ alkyl radicals;

and

(d) wherein said at least one thickening polymer is chosen from polymers comprising at least one sugar unit,

with the provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
 - both D's are simultaneously nitrogen atoms,
 - $R_{\rm 3}$ and $R'_{\rm 3}$ are simultaneously hydrogen atoms,
 - R₁ and R₂ are simultaneously unsubstituted methyl radicals, and
 - A is A₆ wherein R₄ is an unsubstituted methyl radical, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
 - D₁ and D₂ are simultaneously nitrogen atoms,

- m is zero,
- R₁₅ is a hydrogen atom,
- R₁₃ is a dimethylamino radical, and
- E is E₈ wherein R' is an unsubstituted methyl group,

then the at least one thickening polymer is not chosen from at least one nonionic guar gum; and

with the further provisos that

- (1) when said at least one cationic direct dye is chosen from compounds of formula (I) wherein:
 - both D's are simultaneously nitrogen atoms, and
 - A is chosen from A₄ and A₁₃, or
- (2) when said at least one cationic direct dye is chosen from compounds of formula (III) wherein:
 - D₁ and D₂ are simultaneously nitrogen atoms,
 - m is zero, and
 - E is chosen from E₁, E₂, and E₇,

then said at least one thickening polymer is not chosen from hydroxyalkylcelluloses and carboxyalkylcelluloses.